

What is claimed is:

1. A method of generating statistical information from input data relating to the operation of a system over time, comprising the steps of:
  - 5 (a) receiving input data relating to the operation of said system over a finite time interval;
  - (b) deriving therefrom statistical data elements relating to the operation of the system during said finite time interval;
  - (c) saving said statistical data elements into a memory area identifiable according to the finite time interval to which the data relates; and
  - 10 (d) repeating steps (a)-(c) for subsequent time intervals, whereby statistical information for a time interval longer than said finite time interval can be derived with reference to the statistical data elements saved in a plurality of said memory areas.
- 15 2. A method as claimed in claim 1, wherein said input data comprises one or more notifications of events occurring in the system during said finite time interval.
- 20 3. A method as claimed in claim 1, wherein the step of deriving statistical data elements comprises generating an object having a statistical parameter identifier and a value associated with said identifier.
- 25 4. A method as claimed in claim 1, wherein the step of deriving statistical data elements comprises retrieving a stored object having a statistical parameter identifier and a value associated with said identifier, and updating said value.
- 30 5. A method as claimed in claim 1, further comprising the step of sending said statistical data to a statistical information collection module for use in updating statistics in real time.

6. A method as claimed in claim 1, wherein said finite time intervals in subsequent iterations of step (a) are equal to the initial finite time interval, whereby each identifiable memory area relates to an equal time interval.

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7. A method as claimed in claim 6, wherein each time interval follows immediately from the preceding time interval, whereby a continuous record of the operation of the system is derivable from a plurality of statistical data elements stored in successively created memory areas.

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8. A method as claimed in claim 1, further comprising the step of performing statistical calculations immediately after each finite time interval using the statistical data elements generated in respect of said finite time interval, and providing as an output a real time dynamically updated statistical output.

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9. A method as claimed in claim 9, wherein said step of performing statistical calculations includes retrieving from memory one or more stored statistical data elements in respect of a time period preceding the immediately elapsed finite time interval.

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10. A method as claimed in claim 9, wherein said statistical calculations are moving-window calculations and said step of performing said calculations comprises:

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adding to a cumulative running total one or more of said statistical data elements in respect of the immediately preceding finite time interval; and

subtracting from said cumulative running total one or more of said statistical data elements in respect of a time period preceding the immediately elapsed finite time interval, said time period being a finite time interval which represents the time immediately before the beginning of the update window of time represented by the updated moving window calculation.

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11. A method as claimed in claim 1, wherein said system is a contact centre and said data represents events occurring in the contact centre.

5 12. A system for generating statistical information from input data relating to the operation of a monitored system over time, comprising:

(a) a connection to the monitored system for receiving input data relating to the operation of said monitored system over a finite time interval;

10 (b) a processor for deriving from said input data statistical data elements relating to the operation of the monitored system during said finite time interval;

(c) a memory comprising a plurality of memory areas, each memory area for saving said statistical data elements and each memory area identifiable according to the finite time interval to which the data relates; and

15 whereby statistical information for a time interval longer than said finite time interval can be derived with reference to the statistical data elements saved in a plurality of said memory areas.

13. A computer program product for generating statistical information from input data relating to the operation of a system over time, said computer program product comprising instructions which when executed in a computer are effective 20 to cause said computer to:

(a) receive input data relating to the operation of said system over a finite time interval;

25 (b) derive therefrom statistical data elements relating to the operation of the system during said finite time interval;

(c) save said statistical data elements into a memory area identifiable according to the finite time interval to which the data relates; and

(d) repeat steps (a)-(c) for subsequent time intervals, whereby statistical information for a time interval longer than said finite time interval can be derived

with reference to the statistical data elements saved in a plurality of said memory areas.

14. A memory structure for recording statistical information relating to the  
5 operation of a system over time, said memory structure comprising a plurality of records each for storing one or more statistical data objects, the statistical data objects in each record being generated in respect of events occurring during a given finite time interval, such that a collection of records relating to successive time intervals provides a granular representation of the operation of the system  
10 over a period of time.

15. A method of processing statistical data stored as statistical data objects, where said objects are grouped together in groups wherein each group represents data in respect of events occurring in a finite period of time, said method  
15 comprising the steps of:

storing a current calculated value for a statistical parameter,  
receiving one or more objects representing events occurring in the most recent time period;  
adjusting said parameter by adding data contained in said received objects;  
20 retrieving from storage a set of objects representing data in respect of an older time period; and  
adjusting said parameter by subtracting data contained in said retrieved objects.

25 16. A method as claimed in claim 15, wherein said method is applied to a moving time window calculation and said older time period is the time period representing the beginning of the moving time window before the most recent time period is taken into account.

17. A system for processing statistical data stored as statistical data objects, where said objects are grouped together in groups wherein each group represents data in respect of events occurring in a finite period of time, said system comprising:

5        a memory for storing a current calculated value for a statistical parameter,  
          a communications link for receiving one or more objects representing  
events occurring in the most recent time period; and

          a processor effective to:

10        adjust said parameter by adding data contained in said received  
objects;

          retrieve from storage a set of objects representing data in respect of  
an older time period; and

          adjust said parameter by subtracting data contained in said retrieved  
objects.

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18. A computer program product for processing statistical data stored as  
statistical data objects, where said objects are grouped together in groups wherein  
each group represents data in respect of events occurring in a finite period of time,  
said computer program product comprising instructions which when executed in a  
computer are effective to cause said computer to:

20        store a current calculated value for a statistical parameter,  
          receive one or more objects representing events occurring in the most  
recent time period;

          adjust said parameter by adding data contained in said received objects;

25        retrieve from storage a set of objects representing data in respect of an  
older time period; and

          adjust said parameter by subtracting data contained in said retrieved  
objects.

30        19. A contact centre management system comprising:

- (i) a contact management unit for controlling the processing of contacts handled by said contact centre;
  - (ii) an event generator for generating event notifications in response to activities occurring under the control of said contact management unit; and
- 5        (iii) a system for generating statistical information from said event notifications, said system comprising:
- (a) a connection to the event generator for receiving event notifications relating to the operation of said contact centre over a finite time interval;
  - (b) a processor for deriving from said event notifications statistical data
- 10      elements relating to the operation of the monitored system during said finite time interval;
- (c) a memory comprising a plurality of memory areas, each memory area for saving said statistical data elements and each memory area identifiable according to the finite time interval to which the data relates; and
- 15      whereby statistical information for a time interval longer than said finite time interval can be derived with reference to the statistical data elements saved in a plurality of said memory areas.